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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,978	12/28/2001	Charles Brandenburg	CL1724 US NA	8691
23906	7590	10/02/2003	EXAMINER	
E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			WYROZEBSKI LEE, KATARZYNA I	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 10/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/032,978	BRANDENBURG ET AL.	
	Examiner	Art Unit	
	Katarzyna Wyrozebski Lee	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on interview 9/26/03.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,13,15,19,21,25,27,31,33,37 and 39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-12,14,16,18,20,22-24,26,28-30,32,34-36,38 and 40-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-45 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                     | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>0903</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>0402</u> . | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1, 3, 5-12, 14, 16-18, 20, 22-24, 26, 28-30, 32, 34-36, 38, 40-45, drawn to composition comprising copolymer of exo-methylene lactam and at least one other free radical polymerizable monomer, classified in class 526, subclass 266.
  - II. Claims 2, 4, 13, 15, 19, 21, 25, 27, 31, 33, 37, 39, drawn to exo-methylene lactam homopolymer composition, classified in class 524, subclass 437.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions require different polymers.

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3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.
5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
6. During a telephone conversation with Mr. Barbara Siegel on 9/26/2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1, 3, 5-12, 14, 16-18, 20, 22-24, 26, 28-30, 32, 34-36, 38, 40-45. Affirmation of this election must be made by applicant in replying to this Office action. Claims 2, 4, 13, 15, 19, 21, 25, 27, 31, 33, 37, 39 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### *Specification*

Title of the present invention is too long.

### *Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1, 3, 5-12, 14, 16-18, 20, 22-24, 26, 28-30, 32, 34-36, 38, 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOORMAN (US 5,319,014) in view of SCHWIND (US 5,880,235).

The prior art of MOORMAN discloses composition comprising acrylic polymer with liquid acrylic monomer that is highly filled with fillers. The examples of MOORMAN disclose use of alumina trihydrate or silver with organophilic clay as the filler component in order to make articles such as sinks (example 4), bowls (example 1), countertops (example 5) and bath tub (example 7).

Filler according to the Abstract of MOORMAN is utilized in amount of 20-70 by volume, and the examples further disclose 63 pbw (ex 3) of alumina trihydrate

The purpose of the prior art of MOORMAN is to obtain an article that is scratch resistance and that has especially good crack resistance as well as process of obtaining the composition.

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The difference between the present invention and the disclosure of the prior art of MOORMAN is copolymer that is capable of further imparting crack resistant properties in the compositions.

With respect to the above difference, the prior art of SCHWIND discloses composition comprising polymer that has great resistance to thermal shock.

The polymer of the prior art of SCHWIND is copolymer of exo-methylene lactam with free-radical polymerizable vinyl monomer. Preferred lactones in the composition of SCHWIND are alpha-methylene-butyrolactones listed in col. 6. The co-monomers include acrylic type monomers such as acrylic esters, acrylic acids and styrene (col. 9, lines 35-48). The most preferred co-polymers are those comprising alpha-methylene butyrolactone with meth(acrylates) because they also have higher thermal resistance (col. 10, lines 25-28).

With respect to the anti-microbial property of the composition, it is well known (see, for example US 5,248,221 provided herewith) that the anti-fouling and thereby anti-microbial properties are the property of compounds such as alpha methylene butyrolactone. Therefore the composition will also be anti-microbial.

In the process of the prior art of SCHWIND the monomers are mixed together in presence of initiator obviously at a temperature that is high enough to initiate polymerization. Polymerizing these monomers in presence of alumina trihydrate of MOORMAN would have been obvious modification, since as the prior art of MOORMAN shows this filler does not affect the course of reaction. In fact MOORMAN polymerizes the monomer *in situ* with filler.

Scratch resistance property of the copolymer of SCHWIND is discussed in detail in col. 26 of the prior art disclosure. The composition is further resistance to wear and retains its gloss.

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In the light of the above disclosure, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to utilize the copolymer of SCHWIND in lieu of polymer of MOORMAN and thereby obtain the claimed invention. Use of the copolymer of SCHWIND would provide article having good scratch resistance and wear resistance as well as thermal resistance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski Lee whose telephone number is (703) 306-5875. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*Katarzyna Wyrozebski*  
KIWL  
September 26, 2003